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ABSTRACT

In the ongoing Sibling Adoption Study of sibling relationships, data gathered from three methods was used to assess the sibling relationship in the home. This report focuses on comparison of the information about the sibling relationship gathered from each method. Eighty-four middle-class families with younger siblings, aged four to six, and older siblings, aged five to ten, were studied. Mothers were interviewed about their children's relationships; siblings were observed in a free-play setting; and siblings and mothers were videotaped while they played structured games. Most significant correlations were found between siblings' behavior as observed in the structured games, and observations and reports of behavior in the other two methods. There were fewer significant correlations between behavior reported in maternal interviews and that observed in the free-play setting. Results of previous research indicating that sibling relationships cannot be described simply by a bipolar positive-negative dimension were confirmed. Reliability was greatest for the maternal interview, followed by structured games, and the free-play setting. (PCB)

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ASSESSMENT OF THE SIBLING RELATIONSHIP

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INTRODUCTION

In recent years developmental psychologists have moved from an exclusive focus on the mother-child relationship to a recognition of the importance of studying a variety of relationships within the family, including the sibling relationship.

There are large individual differences between sibling dyads in the quality of their relationship. Although researchers have used observational techniques to assess these differences in very young children, there is a need for multi-method approaches to the study of sibling relationships.

In the ongoing Sibling Adoption Study, data from three methods are used to assess the sibling relationship in the home. Mothers are interviewed about their children's relationships, the siblings are observed in a free-play setting, and siblings and mothers are videotaped while they play structured games. The analyses in the present report focus on comparison of the information about the sibling relationship gathered from each method.

Methods

Sample

The sample consists of 84 middle-class families who are participating in a larger study of children's normal development (Plomin, R. & DeFries, J, 1986). Younger siblings are 4 to 6

years old (mean 4 years, 9 months) and older siblings are 5 to 10 years old (mean 7 years, 7 months). The average age gap between siblings is 2 years, 10 months. There are an even number of same-gender and mixed-gender sibling dyads. Twenty-two of the families are adoptive and 42 are non-adoptive. The sample includes 46, 2 child families, 30, 3 child families, and 8 families with more than 3 children.

Procedure

Each family was visited in their home for approximately two hours. Mothers and siblings were videotaped for 30 minutes while they played structured games together. The games included 1. tower building, (6, 15-second trials) 2. a board game, cooperative condition, (4, 30-second trials) 3. the same board game, competitive condition (4, 15-second trials). 4. free play with a farm set (5 minutes) 5. free play with the farm set, mother absent (5 minutes), and 6. play-doh, mother absent (5 minutes, mother absent). The siblings' behavior was next coded during a 30-minute free-play session. The free-play session was tape-recorded and the tapes were later coded for siblings' verbal interaction. Mothers were given a 45-minute open-ended interview which included questions in three areas: the nature of their children's sibling relationship, their differential behavior to the children, and the children's temperaments.

Measures

A) Structured Games:

Each child's behavior to his/her sibling was rated from the videotapes. Scores from the 6 games were totalled to create 4 overall scales: control, cooperation, competition, and conflict.

B) Free-Play Setting:

1. Behavioral Observation:

Siblings were observed during a 30-minute free-play session. During this time, the observer coded their behavior at 10-second intervals on a 28 item behavioral code.

2. Verbal interaction:

The children's verbal interaction was audiotaped. The audiotapes were later coded for the frequency with which each sibling displayed 30 verbal behaviors.

Data Reduction:

Because the free-play situation varied in length from 25 to 35 minutes, all behaviors and verbal behaviors are reported as proportions of the total number of 10 second units in the observation in which they occurred. The behavioral and audio codes were included in a principal components analysis with orthogonal rotation. Two factors were retained and based on these factor loadings, a positive and a negative scale were created using standardized scores. The positive scale included:

positive affect, cooperate/help, suggest joint play, and refer to joint acts. The negative scale included: protest, antagonism, and disconfirm. The factor loadings were similar for older siblings and younger siblings. The scales were independent.

C) Maternal Interview:

Mothers were asked questions about the quality of the siblings' relationship and about each child's behavior toward his sibling. The questions were open-ended and the interviewer rated mothers' responses on 5-point scales.

Data Reduction:

Mothers' responses to questions about each child's behavior were included in a principal components analysis with orthogonal rotation. Two factors were retained and independent positive and negative scales were created using standardized scores. The positive scale included: desire to play with the sibling, affection, nurturance, and caretake. The negative scale included: physical aggression, competition, jealousy of the mother, and jealousy of the father. The same factor structure emerged for older siblings and younger siblings.

Test-retest Reliability

Table 1 contains two-week test-retest correlations computed foe a subsample of 30 families.

ANALYSIS

Correlation analysis was computed to compare the measures of siblings' behavior gathered from the three methods.

RESULTS AND CONCLUSIONS

There was some consistency between the three methods in the information gained about the sibling relationship. Most significant correlations were found between siblings' behavior in the structured games and the other two methods. There were fewer significant correlations between the maternal interview and the free-play setting (see tables 2 and 3).

Factor analysis of mothers' reports of the siblings' relationship and siblings' observed behavior in the free-play setting resulted in a positive and an orthogonal negative dimension for each method. This confirms and extends previous research indicating that sibling relationships cannot be described simply by a bipolar positive-negative dimension.

Test-retest correlations showed reliability for measures from each method. Reliability was greatest for the maternal interview, followed by the structured games, and the free-play setting.

These methods are being used in the Sibling Adoption Study to examine the genetics of family relationships, by comparing adoptive and non-adoptive siblings and studying the influence of non-shared environment. In addition the methods will be used to

investigate the mutual influence of the mother-child and the sibling relationship.

REFERENCES

Plomin, R. & DeFries, J. (1985) Origins of Individual Differences: The Colorado Adoption Project. New York: Academic Press.

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Table 1

Test-retest Correlations

	Older Sibling	Younger Sibling	Dyad
Structured Games			
Conflict	.36	.48 *	
Cooperate	.48 *	.43 *	
Control	.01	-.04	
Compete	.48 *	.22	
Maternal Interview			
Positive	.77 *	.56 *	
Negative	.76 *	.69 *	
Quarrel			.56 *
Pretend			.54 *
Free-Play			
Positive	.46 *	.30	
Negative	-.08	.02	
Joint Play			.02
Conflict			-.11
Pretend			.71 *
Alone			.33

* $p < .05$

Table 2

Correlations between Methods
Older Sibling

	Structured Games			
	Conflict	Cooperate	Control	Compete
Maternal Interview				
Positive	-.22 *	.03	-.14	-.04
Negative	.09	-.29 *	.15	-.19
Quarrel	.11	-.12	.26 *	.11
Pretend	-.16	.05	-.17	-.09
Free-Play				
Positive	-.05	.13	.16	-.05
Negative	-.08	.14	.25 *	-.01
Joint Play	-.14	.33 *	-.15	-.26 *
Conflict	.07	.02	.18	.08
Pretend	-.16	.05	-.17	-.09
Alone	.20 *	-.30 *	.09	.23 *

* $p < .05$

Table 3

Correlations between Measures
Younger Sibling

	Structured Games			
	Conflict	Cooperate	Control	Compete
Maternal Interview				
Positive	-.29 *	.13	-.24 *	-.16
Negative	.14	-.24 *	.19	.23 *
Quarrel	-.10	.17	-.13	-.11
Pretend	-.17	.10	-.18	-.07
Free-Play				
Positive	-.10	.17	-.13	-.11
Negative	.00	.18	.08	-.02
Joint Play	-.15	.23 *	-.15	-.21 *
Conflict	.08	.00	.23 *	.09
Pretend	-.17	.10	-.18	-.06
Alone	.17	-.18	.03	.18

* $p < .05$